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TORREYA

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No. 9

SCROPHULARIACEAE OF THE LOCAL FLORA. III

By FRANCIS W. PENNELL

(Continued from August TORREYA)

- II. VERONICASTRUM Heister; Fabr. Enum. meth. pl. Hort.
Helmstead. III. 1759

Type species, *Veronica virginica* L.

- I. VERONICASTRUM VIRGINICUM (L.) Farwell.

Veronica virginica L. Sp. Pl. 9. 1753. "Habitat in Virginia." Grown in the Clifford garden.

Veronicastrum album Moench, Meth. 437. 1794. ".....
..... *Veronica virginica* L."

Calistachya alba Raf. in Med. Repos. N. Y. II. Hex.
5: 352. 1808.

Based on *Veronica virginica* L. Type of *Calistachya*
Raf., not *Callistachys* Vent., 1804.

Leptandra virginica (L.) Nutt. Gen. N. Am. Pl. 1: 7. 1818.

Type of *Leptandra* Nutt.

Eustachya alba (Raf.) Raf., Cat. 14. 1824. *Eustachya*
Raf. in Am. Mo. Mag. 4: 190. 1819, was a new name
for *Calistachya* Raf. Preoccupied by *Eustachys* Desv.,
1810.

Leptandra alba Raf. Med. Fl. 2: 21. 1830. "The true
V. virginica of L. The most common species
being found all over the United States."

Paederota virginica (L.) Torr., Fl. N. Y. 2: 44. 1843.

Calistachya virginica (L.) Farwell in Mich. Acad. Sci. Rep.
17: 176. 1915.

Veronicastrum virginicum (L.) Farwell, Drugg. Circ. 61:
231. 1917.

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Varying, in number of leaves in whorl (five, reducing to four or three), in inflorescence of one or several racemes, and in leaves from lanceolate to nearly ovate, pubescent to nearly or quite glabrous beneath.

Flowering from mid-July to early September, and soon ripening fruit.

Sandy or loam soil, swales and moist meadows, in potassic, magnesian and calcareous soils, frequent above the Fall-line; in western Long Island, and occasional in Middle district of New Jersey. Ranges from Connecticut and Ontario to Mississippi, Minnesota and Texas.

VERONICA L. Sp. Pl. 9. 1753

Type species, *Veronica officinalis* L., of Europe.

Flowers solitary, axillary, frequently approximating so as to form a terminal raceme. Leaves alternate through the inflorescence.

Filaments not exceeding the lobes of the corolla.

Bracts leaf-like or slightly reduced. Plants less than 3 dm. tall.

Pedicels longer than the sepals, usually exceeding the bracts. Sepals ovate. Capsule turgid. Seeds few, 1.3-3 mm. long, convex-arched, roughened. Leaves petioled (rarely the uppermost sessile), primarily palmately 5-7 nerved, the midvein usually with some radiating pinnate veins; mainly alternate, the lower sometimes opposite.

Leaves broadly cordate, 3-5 lobed, the lobes rounded. Sepals broadly ovate, conspicuously ciliate. Capsule very turgid, scarcely notched at apex, only slightly 2-lobed. Seeds 2.5-3 mm. long, blackish.

1. *V. hederacfolia*.

Leaves ovate, serrate to dentate. Sepals more shortly ciliate. Capsule slightly flattened, deeply notched at apex, thus strongly two-lobed. Seeds 1.3-1.5 mm. long, brown.

Petals not exceeding the ovate sepals. Capsule-lobes rounded, the most distal point of each about midway between the style and the lateral margin.

2. *V. agrestis*.

Petals exceeding the narrowly ovate sepals. Capsule-lobes acutish, the most distal point of each near the lateral margin.

Pedicels shorter than sepals or bracts. Sepals linear to narrowly ovate. Capsules flattened. Seeds many, less than 1 mm. long, flat, smooth or nearly so. Leaves sessile (or the lower petioled), scarcely palmate; alternate only through the inflorescence.

Perennials. Repent, with ascending stems.

Leaves oval or ovate, obscurely crenate. Inflorescence spike-like, restricted to the distal portion of the stem. Sepals ovate. Corolla blue or white, with deep-blue lines on posterior side. Capsule retuse or shallowly notched, glandular-pubescent.

Leaves prevailingy oval. Stems distally and pedicels minutely pubescent with appressed hairs. Corolla 2 mm. long, white, with blue lines on posterior side.

Leaves prevailingy ovate. Stems distally and pedicels finely pubescent with mostly spreading hairs. Corolla 3 mm. long, blue on posterior side, anterior lobe nearly white; with deep-blue lines on posterior side.

Annuals. Erect, much branched below. Most leaf-axils flower-bearing. Sepals lanceolate to linear. Capsule deeply notched.

Lower stem-leaves ovate, crenate-serrate, the lowermost frequently petioled. Corolla deep violet-blue. Capsule pubescent with slightly gland-tipped hairs. Plant pubescent with glandless hairs.

Lower stem-leaves oblanceolate, entire or distally remotely toothed, all sessile. Corolla whitish throughout. Capsule glabrous. Plant glabrous or with short gland-tipped hairs.

Stem glabrous.

3. *V. Tournefortii*.

4. *V. serpyllifolia*.

5. *V. ruderalis*.

6. *V. arvensis*.

7. *V. peregrina*.

Stem pubescent with gland-tipped hairs.

Filaments much exceeding the lobes of the corolla.

Bracts linear, abruptly reduced from the lanceolate foliage-leaves. Plants 6-10 dm. tall. Perennial.

Flowers all in axillary small-bracted racemes. Leaves opposite throughout. Perennials.

Stem, pedicels, leaves and sepals pubescent. Capsules pubescent. Leaves oval or ovate, serrate to dentate. Plants of dry soil.

Leaves sessile or nearly so, ovate, dentate, the largest cordate at base. Sepals 4-5 mm. long, linear-lanceolate, exceeding the capsule. Capsule not glandular, its lobes broadly rounded. Ascending or erect.

Stem erect, 3-5 dm. tall. Leaves coarsely dentate. Racemes 30-60 flowered, the pedicels scarcely exceeding the bracts. Largest corolla-lobes ovate, 6 mm. long, violet.

Stem ascending, 1-3 dm. tall. Leaves crenately dentate. Racemes 10-20 flowered, the pedicels much exceeding their bracts. Largest corolla-lobes nearly orbicular, 3.5-4 mm. long, violet-blue.

Leaves oval, crenate-serrate, narrowed to a petiolar base. Sepals 2-3 mm. long, lanceolate, shorter than the capsule. Capsule glandular, the most distal point being near the lateral margin of each lobe. Extensively repent, at apex ascending.

Stem, pedicels, leaves and sepals glabrous (or in *V. glandifera* slightly pubescent with gland-tipped hairs). Capsules glabrous. Leaves oblong-ovate to linear, obscurely crenate-serrate to entire. Aquatics.

Capsule scarcely or not wider than long, and scarcely or not two-lobed. Sepals equaling the capsule. Leaves oblong-ovate to broadly lanceolate, obscurely crenate-serrate.

Leaves all petioled. Racemes usually 10-25 flowered. Plant emersed.

Leaves sessile and clasping (or only the upper or lowermost petioled). Ra-

7a. *V. peregrina xalapensis*.

8. *V. longifolia*.

9. *V. Teucrium*.

10. *V. Chamaedrys*.

11. *V. officinalis*.

12. *V. americana*.

cemes usually longer, 25-50 flowered.
In deeper water, usually mostly submersed.

Stem distally, rachis and pedicels glabrous. Leaves oblong-ovate, mostly broadest about the middle, the lowest, especially if submersed, narrowing to a petiolar base. Capsule globose-ovoid, not or scarcely emarginate.

13. *V. Brittonii*.

Stem distally, rachis and pedicels sparsely pubescent with glands, borne upon jointed stalks. Leaves lanceolate, broadest near the base, the lowest submersed ones elongated-lanceolate, clasping. Capsule broad-globose, emarginate.

14. *V. glandifera*.

Capsule much wider than long, strongly two-lobed. Sepals shorter than the capsule. Leaves linear or nearly so, remotely setaceous-toothed to entire.

15. *V. scutellata*.

1. VERONICA HEDERAEOFOLIA L.

Occasionally introduced into waste lands, mostly near cities.
From Eurasia.

2. VERONICA AGRESTIS L.

Occasionally introduced into waste land, mostly near cities.
From Eurasia.

3. VERONICA TOURNEFORTII C. C. Gmel.

Veronica precox Raf. Atl. Journ. 79. 1832. "Grown in the [Bartram's Botanic] Garden [near Philadelphia] from seeds received from a place unknown; but has spread all over the garden like a weed, and even is become spontaneous on the banks of the Schuylkill." Not *V. precox* All., 1789.

Veronica diffusa Raf., New Fl. Am. 4: 38. 1838. "Native of ——— naturalized on the Schuylkill near Philadelphia." Re-naming of *V. precox* Raf.

Occasionally introduced into waste land. From Eurasia.

4. VERONICA SERPYLLIFOLIA L.

Common in moist grassy soil, meadows, fields and lawns.
From Eurasia.

5. *VERONICA RUDERALIS* Vahl, Enum. Pl. 1: 66. 1805. "Habitat in ruderatis versuris et humidis locis frigidis Peruviae."

Type not seen nor verified, but specimens from Ecuador and those collected by the writer in Colombia show the identity of this with the plant here considered.

This is the plant identified in the seventh edition of Grays Manual as *Veronica humifusa* Dickson. This species, published in Trans. Linn. Soc. 2: 288. 1794, and found by James Dickson on "very high mountains of Scotland," was described by him as a plant wholly prostrate, with cordate-subrotund minutely scabrous leaves which often occur in threes or fours, and with a short raceme of a few crowded flowers. Whatever this may be, it surely cannot be our plant.

Veronica ruderalis appears to be the most cosmopolitan species of the genus, and doubtless *V. serpyllifolia* must be considered as a Palaearctic derivative from it. It is a boreal or mountain species through Eurasia and the Americas. One European description which I have had no opportunity to see, that of *Veronica neglecta* F. W. Schmidt, Fl. Boem. 1: 12. 1794, may give a name which possibly must supersede ours. This is identified by Koch, Syn. Fl. Germ. & Helv. 529. 1837, as a larger ovate-leaved form of *V. serpyllifolia*. However in the fifth (Hallier's) edition of the Flora von Deutschland of Schlechtendahl and Others, 17: 150, while this is similarly characterized, the glandular-pubescent plant is distinguished as var. *borealis* Laestad. So it would appear safer to consider *neglecta* as but a robust state of the appressed-pubescent *serpyllifolia*.

I agree with Prof. Fernald, in Rhodora 4: 194. 1902, that "the evidence at hand indicates that this large-flowered variety is the only indigenous form of *V. serpyllifolia* in Northeastern America." I follow his later judgment as expressed in the Grays New Manual, and in Rhodora 13: 124. 1911, in according this specific rank. However I see no basis for the decision of the new Gray that *serpyllifolia* is likewise indigenous. Its occurrence in North America is south of the region normally occupied by species common to both this continent and Europe.

Apparently this has been collected in our range by C. F.

Austin in Sullivan Co., New York in 1860. It was labeled by him "large form."

6. *VERONICA ARVENSIS* L.

Common in cultivated soil. From Eurasia.

7. *VERONICA PEREGRINA* L. Sp. Pl. 14. 1753. "Habitat in Europae hortis, arvisque." Described, as the specific name would suggest, from specimens of an introduced plant.

Certainly American in origin, but it is difficult or impossible to say of what portion of this hemisphere it is indigenous. An abundant weed in moist cultivated soil.

7a. *Veronica peregrina xalapensis* (H. B. K.) Pennell, comb. nov.

Veronica xalapensis H. B. K., Nov. Gen. et Sp. 2: 389. 1817. "Crescit in Regno Mexicano prope Xalapa (alt. 630 hex.), in nemoribus Liquidambaris Styrcifluae."

Occasional in cultivated soil. In the western half of the continent this glandular-pubescent plant completely replaces true *peregrina*. In the east it is only occasionally seen, and that probably as an introduction. Intergradation to the species seems to be complete.

8. *VERONICA LONGIFOLIA* L.

Rare in waste land. From Eurasia.

9. *VERONICA TEUCRIUM* L.

Rare in grass or waste land. From Eurasia.

10. *VERONICA CHAMAEDRYIS* L.

Occasional in grass land. From Eurasia.

11. *VERONICA OFFICINALIS* L.

Common in pasture fields and waste lands. In colonial times this was grown as a medicinal plant, and very early became established as if native. From Eurasia.

12. *VERONICA AMERICANA* Schwein.

Veronica Beccabunga americana Raf., Med. Fl. 2: 109. 1830. "It grows from Canada to Virginia and Kentucky, near water, brooks, &c."

Veronica americana Schwein.; Benth. in DC., Prod. 10: 468. 1846. "*Veronica americana* (Schweinitz! mss.)

... In America boreali a Canada et Carolina usque ad flum. Oregon et in ins. Sitcha ... (v. s.)" Specimen seen in herbarium of the Academy of Natural Sciences of Philadelphia, labeled "Bethl." [Bethlehem, Pennsylvania], collected by Schweinitz, may be of collection seen by Bentham.

Flowering from late May to mid-August, and soon ripening fruit.

Springheads in woodland, and along cool streams, in potassic soil, frequent throughout the area above the Fall-line; in northern and westernmost Long Island. Ranges from Quebec to Alaska, south to South Carolina, New Mexico and California.

13. **Veronica Brittonii** PORTER sp. nov.

Veronica Anagallis latifolia Britton in Bull. Torr. Bot. Club 12: 49. 1885. "In the latter part of September, 1883, ... near Mahwah, Bergen Co., New Jersey, I noticed [this] in a small stream which crosses the N. Y. L. E. & W. R. R., half a mile or so north of the station." Type seen in herbarium of Columbia University at the New York Botanical Garden.

Stem 3-9 dm. long, glabrous, succulent, hollow. Leaves oblong-ovate to oval, acute, crenate-serrate to nearly entire, 5-10 cm. long, 3-5 cm. wide, clasping, the lowest narrowed to a petiolar base. On autumnal shoots all the leaves are ovate and definitely petioled. Racemes axillary to the upper leaves, 6-12 cm. long, 40-60 flowered. Bracts narrowly lanceolate, 4-5 mm. long. Pedicels 3.5-4.5 mm. long, glabrous. Sepals 3-3.5 mm. long, lance-ovate, acute. Corolla 4 mm. long, with a few hairs within throat, pale-blue, paler anteriorly, with longitudinal reddish-violet lines. Capsule 3-3.5 mm. long, globose-ovoid, acutish. Seeds .4 mm. long, oval, yellow-brown.

Type, base of Marble Hill, above Phillipsburg, New Jersey, collected in flower and fruit June 24, 1892, *T. C. Porter*; in herbarium Columbia University at the New York Botanical Garden. This specimen shows the summer state. Specimens collected at the same station October 9, 1892, show excellently the autumnal condition.

In the herbarium of Columbia University is a manuscript

description by Dr. Thomas C. Porter, the diagnosis of which includes such field knowledge as to make it worth quoting in full: "VERONICA BRITTONII, n. sp.

" (*V. Anagallis* L., var. *latifolia* Britton). Glabrous, perennial, growing in shallow, shaded rivulets. In its summer state (June), the stems are erect, simple or branching, 2 to 3 feet high, round, often half an inch in diameter, succulent, fistular, brittle; the leaves ovate or oblong-ovate, variable in size, 2 to 3 inches in length, more or less clasping at base, the lowest pair sometimes contracted into short petioles; racemes numerous, many-flowered. In its autumn-state (October), the stems are procumbent at base and rooting at the joints, rarely producing racemes of flowers; the leaves large, orbicular, $1\frac{1}{2}$ to 2 inches in diameter, abruptly narrowed into broadly margined petioles, $\frac{1}{2}$ to an inch long, shining, thickish when fresh, with prominent veins beneath, thin when dried, crenulate, those of the slender branches similar but much smaller, petioles of the uppermost very short or wanting. Inflorescence, fruit and seeds scarcely to be distinguished from those of *V. Anagallis* and *V. Beccabunga*; flowers pale blue, the three large lobes marked with reddish stripes; capsules orbiculate, acutish." Then follow citation of specimens from northeastern Pennsylvania and northwestern New Jersey, and considerable interesting comment.

From a series of letters of Dr. Porter to Dr. Britton, the history of the former's interest in this plant may be traced. It commenced with finding on October 1, 1891 at Pot Rock, near Easton, Pennsylvania, a colony of the autumnal petioled-leaved form. On the 5th he wrote of having visited a colony of the plant in "the little run beside the tavern above Pot Rock," a station whence in "in midsummer two or three years ago" he had obtained "a very different form." The plant was abundant, and exactly that of the first discovery. On the 12th, Dr. Porter was "fully convinced that this plant is genuine *V. Beccabunga*, L.," and accordingly sent a note for the *Torrey Bulletin* to urge this opinion. He had even convinced himself of its introduction from the Old World. But for us the most interesting paragraph of this note is that contrasting the autumnal state of this plant with *Veronica americana*:

"*Veronica Americana* Schwein., a nearly allied species, which has likewise petioled leaves, was growing with it in some places, but its procumbent, far less robust stems and its smaller, ovate or lance-ovate, sharply serrated leaves furnished a striking contrast. In seeing them thus together even an unpracticed eye could not have failed to distinguish the one from the other. Intermediate forms were wholly wanting, so that the conjecture that it either must be an abnormal growth of that species, or a new variety is wide of the mark."

Flowering from late May to early October, and soon ripening fruit.

"Shallow shaded rivulets," through Piedmont Region above the Fall-line, western Connecticut to Northeastern Pennsylvania; reported by Porter from Franklin County, Pennsylvania, and seen from Keweenaw County, Michigan, collected July 8, 1915 by O. A. Farwell 4005.

CONNECTICUT.* Litchfield: North Canaan, E. B. Harger 6238 (A).

NEW YORK. Greene: New Baltimore, N. Taylor 1289 (Y). Queens: Flushing, J. A. Bisky (E, Y); Jamaica (Y). Rockland: Spring Valley (Y); Tappan, W. H. Leggett (Y).

NEW JERSEY. Bergen: Carlstadt (Y); Carlton Hill, G. V. Nash 244 (Y); Mahwah (Y). Hunterdon: banks of Delaware River above Stockton, C. S. Williamson (A). Passaic: Passaic, E. W. Berry (Y). (P) Warren: Flatbrookville, (A); Manunka Chunk, Phillipsburg, T. C. Porter (A, Y).

PENNSYLVANIA. Northampton: Pot Rock, etc., near Easton, T. C. Porter (A, P, Y); Johnsonville (A); Martins Creek (A); Riverton (A).

14. *Veronica glandifera* Pennell sp. nov.

Flowering stem 3-9 dm. long, glabrous or distally glandular-pubescent. Leaves lanceolate, acuminate, more or less serrate,

* Localities for specimens seen are grouped by counties, and these listed in alphabetic sequence.

Herbaria cited: A. Academy of Natural Sciences, Philadelphia.

E. Brooklyn Botanic Garden, Brooklyn.

P. University of Pennsylvania, Philadelphia.

Y. New York Botanical Garden, New York.

7–10 cm. long, 1.2–2.5 cm. wide, all clasping, the lowest submersed ones elongated. Racemes axillary to the upper leaves, 10–20 cm. long, 30–60 flowered. Bracts narrowly lanceolate, 4–6 mm. long. Pedicels 3–6 mm. long, glandular-pubescent with scattered hairs. Sepals 3–4 mm. long, lanceolate, acute to acuminate. Corolla about 3 mm. long, not seen fresh. Capsule 2.5–3 mm. long, 3–3.5 mm. broad, broad-globose, emarginate. Seeds .4 mm. long, oval, yellow-brown.

Type, vicinity of Suffolk, Nansemond County, Virginia, collected in flower and fruit May 27, 1893. *N. L. Britton and J. K. Small*: in herbarium Columbia University at the New York Botanical Garden.

Flowering from late May to late July, and soon ripening fruit.

Shallow flowing streams, mainly in calcareous soil, through the lower Piedmont from the Delaware valley southwestward.* Ranges from New Jersey to North Carolina, Minnesota and Kentucky.

NEW JERSEY. Warren: Warrentown, *C. S. Williamson* (P).

PENNSYLVANIA. Bucks: Rockhill, *A. MacElwee* (A); Sellersville (A). CHESTER: West Chester, *W. Darlington* (A, Y). Lancaster: Dillerville Swamp, *J. K. Small* (Y). Montgomery: Conshohocken (A); Manayunk, Shannonsville *J. Crawford* (A). Philadelphia: East Park (P) *I. C. Martindale* (A). Wayne Junction (A).

15. *VERONICA SCUTELLATA* L., Sp. Pl. 12. 1753. "Habitat in Europae inundatis."

Flowering from late May to September, and soon ripening fruit.

Swales and along streams, through the area above the Fall-line, becoming common northward. Ranges from Newfoundland to Yukon, south to Virginia, Wyoming and California; also through Eurasia.

(*To be continued*)

* In the herbarium of the Charleston Museum, Charleston, South Carolina, is a sheet of *glandifera* bearing the inscription "Marl indicator!! Va. M. T." Dr. Barnhart identifies this comment as that of Michael Tuomey, a teacher in Virginia, who afterward became State Geologist of South Carolina. My only finding of this plant has been on limestone at Natural Bridge, Virginia, *Pennell 9802*.